Cambridge Assessment International Education

Cambridge IGCSE™

CANDIDATE NAME									
CENTRE NUMBER						CANDIDATE NUMBER				

4299481670

CAMBRIDGE INTERNATIONAL MATHEMATICS **0607/12**

Paper 1 (Core) **May/June 2022**

45 minutes

You must answer on the question paper.

You will need: Geometrical instruments

INSTRUCTIONS

- Answer **all** questions.
- Use a black or dark blue pen. You may use an HB pencil for any diagrams or graphs.
- Write your name, centre number and candidate number in the boxes at the top of the page.
- Write your answer to each question in the space provided.
- Do **not** use an erasable pen or correction fluid.
- Do **not** write on any bar codes.
- Calculators must **not** be used in this paper.
- You may use tracing paper.
- You must show all necessary working clearly and you will be given marks for correct methods even if your answer is incorrect.
- All answers should be given in their simplest form.

INFORMATION

- The total mark for this paper is 40.
- The number of marks for each question or part question is shown in brackets [ ].

This document has **8** pages.

Formula List

Area, A, of triangle, base b, height h.	$A = \frac{1}{2}bh$
Area, A, of circle, radius r.	$A = \pi r^2$
Circumference, C, of circle, radius r.	$C = 2\pi r$
Curved surface area, A, of cylinder of radius r, height h.	$A = 2\pi rh$
Curved surface area, A, of cone of radius r, sloping edge l.	$A = \pi rl$
Curved surface area, A, of sphere of radius r.	$A = 4\pi r^2$
Volume, V, of prism, cross-sectional area A, length l.	$V = Al$
Volume, V, of pyramid, base area A, height h.	$V = \frac{1}{3}Ah$
Volume, V, of cylinder of radius r, height h.	$V = \pi r^2 h$
Volume, V, of cone of radius r, height h.	$V = \frac{1}{3}\pi r^2 h$
Volume, V, of sphere of radius r.	$V = \frac{4}{3}\pi r^3$

Answer **all** the questions.

1 Change $1\frac{1}{2}$ years into months.

..... months [1]

2 Write $\frac{10}{100}$ as a percentage.

..... % [1]

3 Suzy hires a car for 5 days.
It cost \$35 for the first day and \$20 for each extra day.

Work out the total amount Suzy pays.

\$ ..... [2]

4 Change 57 kilograms into grams.

..... g [1]

5 These are the scores of 7 students in a spelling test.

12 8 9 7 13 10 11

(a) Work out the range.

..... [1]

(b) Work out the mean.

..... [2]

6 A drawer contains 40 socks.
15 socks are black, 5 socks are grey and 20 socks are white.
Samir chooses one sock from the drawer at random.

(a) Write down the colour of sock he is most likely to choose.

..... [1]

(b) Find the probability that the sock is not black.

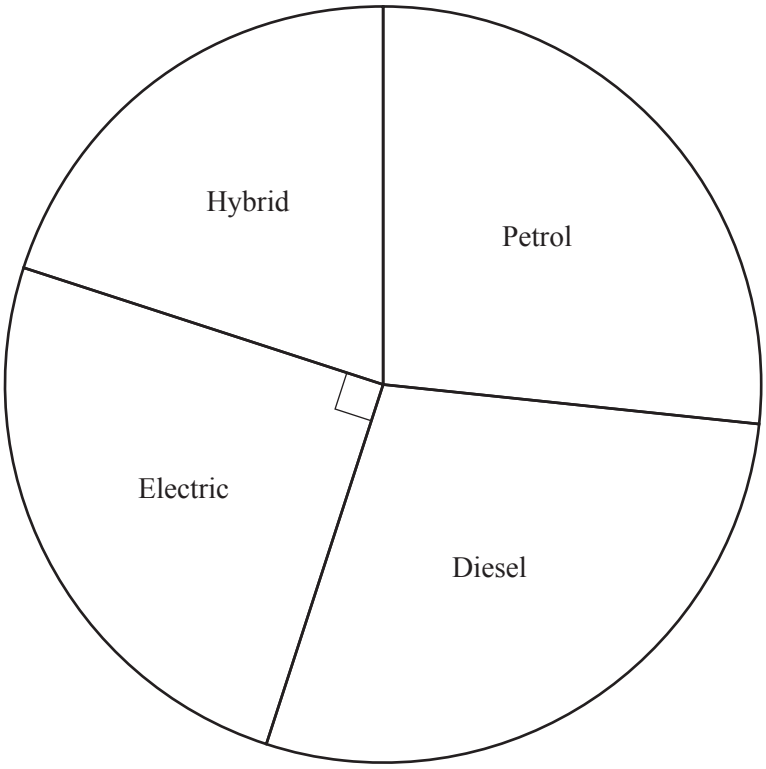
..... [1]

7 Work out.

$5 - (-2)$

..... [1]

8 120 people were asked what type of car they own.
The results are shown in the pie chart.



Work out how many people own an electric car.

..... [2]

9 A rectangle measures 10 cm by 30 cm.
It is enlarged by a scale factor of 3.

Work out the size of the new rectangle.

..... cm by ..... cm [2]

10 Work out the value of 2^6.

..... [1]

11 Find the coordinates of the mid-point of the line joining the points (0, 0) and (4, 6).

(..... , ...) [1]

12 A circle has circumference 16π cm.

Find the radius of this circle.

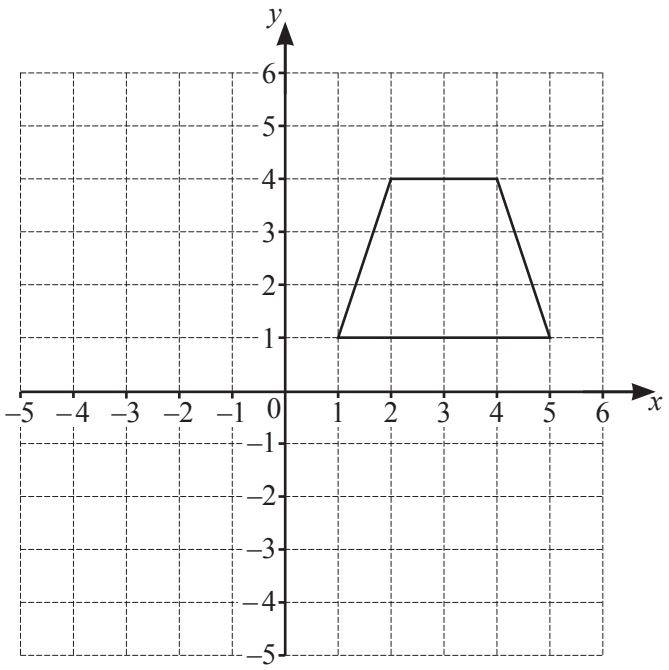
..... cm [2]

13 $f(x) = 3 + x^2$

Work out f(5).

..... [1]

14



Reflect the shape in the line $y = 1$. [2]

15 Find the lowest common multiple (LCM) of 12 and 30.

..... [2]

16 $A = \{\text{square numbers less than } 20\}$
$B = \{\text{multiples of 4 less than } 20\}$

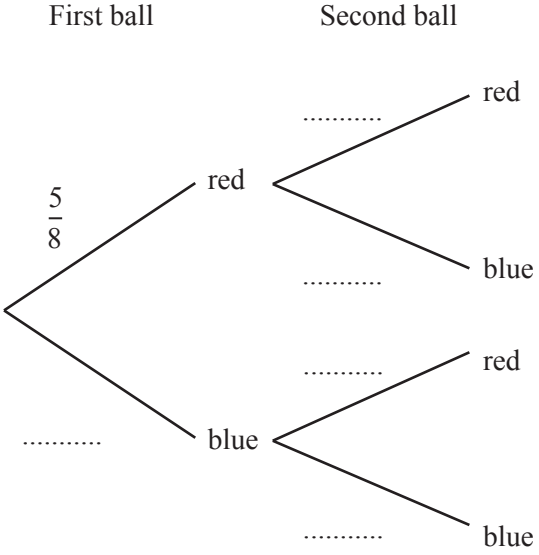
List the elements of $A \cap B$ and $A \cup B$.

$A \cap B =$ .....

$A \cup B =$ ..... [3]

17 A bag contains 5 red balls and 3 blue balls.
Magda takes one ball at random out of the bag, notes the colour, and replaces it.
She then takes another ball at random out of the bag and notes the colour.

Complete the tree diagram.



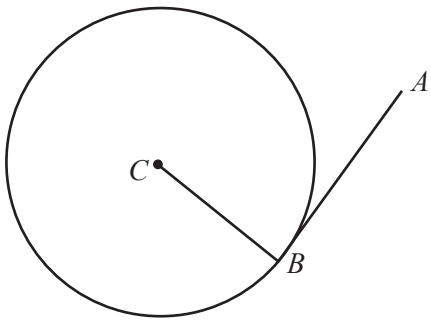
[2]

18 Simplify.

$$\frac{6b}{a} \div \frac{2b}{ac}$$

..... [2]

19



NOT TO SCALE

C is the centre of a circle.
AB is a tangent to the circle at *B*.

Write down the value of angle *ABC*.

Angle *ABC* = ... [1]

Questions 20, 21, 22 and 23 are printed on the next page.

20 A young goat is weighed.
The mass of the goat is 5 kg.
The next time it is weighed, its mass is 7 kg.

Work out the percentage increase in the mass of the goat.

..... % [2]

21 Expand and simplify.

$$2(2x-1)+3(3-x)$$

..... [2]

22 Write 0.002 74 in standard form.

..... [1]

23 Solve the simultaneous equations.

$$2a+6b=22$$
$$-a+7b=9$$

$a =$ .....

$b =$ ..... [3]